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Local Motives and Virtual Team Success: Inverting the Normative Views of Team Goal Commitment and Hidden Agendas

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Abstract
This paper challenges the normative conception of the relationships of team goals and hidden agendas to team performance. In a 23-month participant observation study of a successful multi-organizational virtual team, I found that the membersâ actions were consistently motivated by local considerations. Based on these findings, I argue that team goal commitment may be an inappropriate goal for many virtual teams and offer an alternative model for the relationship between a virtual team goal and team performance.

Keywords: Virtual teams, Team goal, Hidden agenda, Commitment, Participation, Team performance, Multi-organizational virtual team

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Introduction

"Commitment to a common goal" has become a taken-for-granted pre-requisite for team success, while the privileging of personal or reference group interests, i.e., "hidden agendas," over the team goal has come to be regarded as a harbinger of failure (Jassawalla, 1998; Moynihan, 2002). Consequently, much of the prescriptive literature about teams has focused on techniques for articulating compelling goals and for motivating team members to "commit" to those goals, typically meaning the subordination of other interests. These same principles have been transferred relatively unreflectively to the study of and prescriptions for virtual teams (Barrett, 2000; Furst, Blackburn, & Rosen, 1999; Lurey & Raisinghani, 2001; Staple, 2001). Several factors, however, militate against the achievement of "commitment" in virtual teams as it is typically construed. In today's "lean," "global," "networked" business organizations, virtual team members generally participate simultaneously on multiple teams, creating the possibility of conflicting goals, schedules, and other demands of participation. In addition, commitment to a virtual team goal may be further complicated by the absence of a single or coherent line of authority if the members call from different profit and loss centers within an organization or different organizations altogether. Finally, in the increasingly uncertain business climate, conventional wisdom encourages professionals to "hedge their bets" through involvement in and contact with many different groups, managers, and organizations, warning against over-identification with any single person, project, or group. Nonetheless, virtual teams do often achieve their goals, calling for a re-examination of the relationships among team goals, commitment, and team performance in the particular context of virtual teams. This paper reports the findings of an inductive study of a multi-organizational virtual team that succeeded in achieving its objectives, winning an industry award in the process, despite the members' primary commitment to local and personal aims.

Current research in "goal theory" focuses on whether commitment plays a mediating or moderating role in the team goal-team performance relationship (Dodd & Anderson, 1996; Donovan & Radosevich, 1998; Sue-Chan, 2002; Tubbs, 1993), how various goal characteristics influence the level of commitment (Mulvey, 1999; O'Leary-Kelly, 1994; Sue-Chan, 2002; Wright & Kacmar, 1994), and whether the goal evokes other psychological states and processes, such as self-efficacy (Sue-Chan, 2002), that in turn contribute to both commitment and performance. By emphasizing refinement of goal theory, researchers have obscured from view how team members actually employ the team goal in their day-to-day practice or how their performance might be influenced by extra-team factors. While a few researchers have acknowledged that external conditions could potentially complement, as well as compete with, team goals in motivating team member action (Locke, 2000; Zander, 1971), the nature of these influences, their impact on team member actions, and their relationship with the team goal has not been explored. This silence in the team literature reflects the philosophical and methodological traditions of team research to focus on actions and interactions within the team boundary (Ancona & Caldwell, 1992). For the most part, virtual team research has unreflectively adopted these traditions and, thus, mirrors the claims and the silences of the traditional teams literature (for exceptions, see Gluesing, 1995; Klein & Barrett, 2001; Majchrzak, Rice, Malhotra, King, & Ba, 2000).

In this study, I contribute to the current virtual teams literature by venturing outside the team boundary to examine the *in situ* practices of the members of one multi-

organizational virtual team vis-à-vis the team objective(s). Examination of the considerations influencing members' contributions to and participation in the virtual team revealed that while the members agreed that the team goal was "important," their day-to-day actions with respect to the team were, nonetheless, informed primarily by concerns for *managing impressions with local constituents, job security,* and *leveraging team participation as a means to local ends.* In contrast to the motivational role played by the team goal in goal theory, the members of this team employed the team goal as a delimiter of the *boundary conditions* for team-related activities, a *temporal frame* for prioritizing activities, and a *legitimating rationale for local action*. Based on these findings, I argue that "commitment" to the team goal, as it is usually construed, may be an unrealistic and unnecessary objective for a virtual team. Instead, I suggest an alternative relationship between a virtual team goal and virtual team performance that anticipates and incorporates virtual team members' privileging of local, extra-team agendas. I consider the implications of these findings for both research and practice.

Team Goal Commitment

Since Zander's (1971) comprehensive study identifying a positive relationship between team goals and team performance, a team goal has been considered a pre-requisite for team effectiveness (Arroba, 1996; Eby, 1997; Hoegl, 2003; O'Leary-Kelly, 1994; Salas, 1999). Current research in "goal theory" investigates whether commitment plays a mediating or moderating role in the team goal-team performance relationship (Dodd et al., 1996; Donovan et al., 1998; Sue-Chan, 2002; Tubbs, 1993), how various goal characteristics influence the level of commitment (Mulvey, 1999; O'Leary-Kelly, 1994; Sue-Chan, 2002; Wright et al., 1994), and whether the goal evokes other psychological states and processes, such as self-efficacy (Sue-Chan, 2002), that in turn contribute to both commitment and performance. Nonetheless these studies tend to take as given that the relationship between the team goal and team performance is either moderated or mediated by team member commitment to the team goal as illustrated in Figures 1a and 1b.

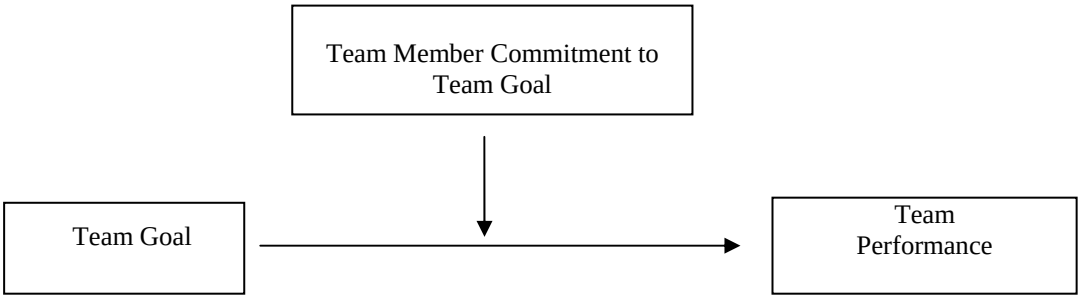

Figure 1a. Team goal-team performance relationship moderated by commitment

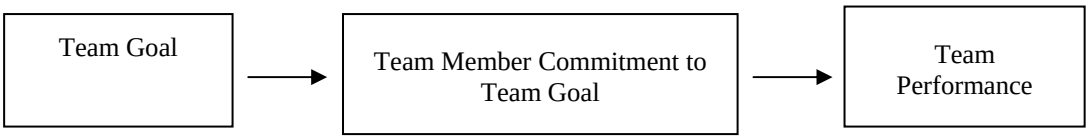

Figure 1b. Team goal-team performance relationship mediated by commitment

Because experimental studies using student populations dominate goal theory research, these studies rarely address the several practical dilemmas encountered by workers participating in contemporary teams that militate against singular goal commitment. First, all teams represent mixed-motive situations (Adler, 1986; Schein, 1988; Schein, 1999; Smith, 1987). Team members commonly feel torn between allegiances toward a functional or disciplinary group, whose expertise or point of view they represent, and the team's needs and objectives. They may also experience a similar tension between their own needs—for autonomy, recognition, career advancement, etc.—and the personal compromises required to participate in a team (Schein, 1988; 1999; Zander, 1971). Alternatively, rather than detracting from a personal or subgroup objective, participation in a team could also represent an opportunity for personal or subgroup benefit apart from or only indirectly related to the team's accomplishment of its espoused goal (Cartwright, 1968; Locke, 2000). Finally, most contemporary workers participate in multiple teams or consider themselves members of multiple project groups (Engestrom, Engestrom, & Karkkainen, 1995; 1991; McGrath, Kelly, & Machatka, 1984). In the best situation, these groups' objectives would be complementary, but complementary objectives do not rule out the possibility of conflicting schedules and competing demands for members' time and attention.

Any one of the described conditions represents a challenge to the establishment of "goal commitment" as the subordination of all other competing demands. Taken together—a realistic scenario for modern workers—they suggest that "commitment" may even be an unrealistic expectation in contemporary teams. That both traditional and virtual teams do, nonetheless, perform and achieve their intended results challenges the assumptions underpinning the normative goal-performance model and calls for a re-examination of the relationship between team goals and team performance.

Virtual teams offer an extreme case for examining this relationship. While virtual team members experience the same tensions between the expectations of their respective membership groups and those of the team as do members of traditional teams, three characteristics of virtual teams may skew the resolution of these tensions in favor of personal and subgroup agendas: loose coupling of participating sites, the relative proximity and distance of collocated and virtual coworkers, and the transient nature of the virtual team membership. The geographical distribution of virtual teams enabled by information and communication technologies (ICT) enable the connecting of members from more diverse and more loosely-coupled sites, even within the same organization. In addition to different geographical regions, members are likely to call from different functional groups and to report to different supervisors from parallel, rather than intersecting, reporting lines.

Social impact theory (Zajonc, 1968) also suggests that superordination of a team goal over subgroup and personal objectives may be more difficult to achieve in a virtual team because the virtual team members' physical proximity to collocated workers and concurrent distance from their virtual teammates may result in greater affinity for, attention to, and cooperation with their collocated coworkers than with their remote collaborators (Kiesler & Cummings, 2002).

Finally, the transient nature of virtual teams may also inhibit virtual team members' willingness to subordinate personal and local objectives to those of the team. To my

knowledge the significance of this particular characteristic of virtual teams has not been explicitly investigated, but studies of contract or temporary workers have shown that temporary workers expressed and exhibited less commitment to the employing organization (DeWitte & Naswall, 2003; Rousseau & Wade-Benzoni, 1995). In addition, commitment may also be a reflection of an individual's social identity (Ashforth & Mael, 1989), which is likely to be more closely linked to the enduring organization rather than the virtual team, though it is possible that communication practices within a virtual team may enhance identification with the team (Wiesenfeld, Raghuram, & Garud, 1998).

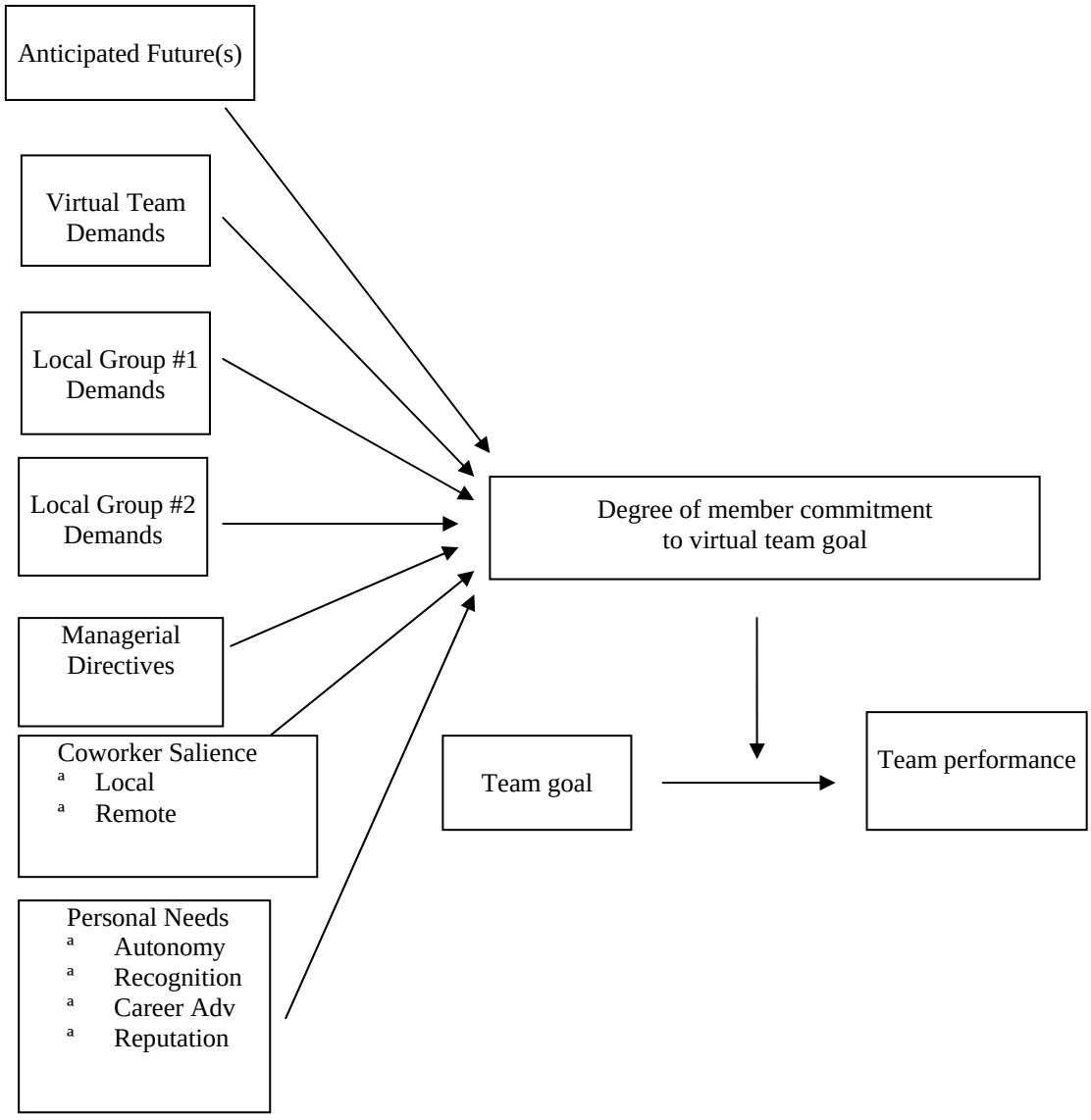

Figure 2. Revised version of normative model for virtual teams incorporating extra-goal influences on team members

Extrapolating from these findings, it seems reasonable to expect that team members experience significant psychological and social pressure to subordinate the needs of the virtual team to those of their primary membership groups, rather than vice versa as prescribed by the literature. Figure 2 illustrates how personal objectives, multi-group membership, and virtual team participation complicate the achievement of team goal commitment in the normative goal-performance relationship in real work teams.

Prior studies *have* acknowledged that team members may be motivated by factors other than commitment to the team goal. For instance, Cartwright (1968) noted that individuals might be motivated to participate when membership in a particular group offered access to a social group or event inaccessible to non-team members. Such personal motivations, or "hidden agendas," however, were then seen as detracting from, not enabling, team effectiveness. More positively, Zander (1971) did speculate that personal and team-oriented motives might "supplement one another in an additive manner" (p. 194), and more recently, Locke (2000) proposed a model of the team goal-team performance relationship that accounts for team members being motivated by either the "team goal," "other [extra-team] motives," or some combination of the two. He did not, however, elaborate on the nature of the "other motives."

There is a need, therefore, for *in situ* studies of virtual teamwork to better understand how virtual team members reconcile the many competing demands for their time and attention, the nature of any "other motives" beyond the team goal, the relationship of such motives to team performance, and the role of the team goal in the life of a virtual team. This paper addresses these particular silences in the current literature using participant-observation data from the study of one multi-organizational virtual team.

Research Site and Methods

Research Context: The AES Team

The AES Team's charter members included fifteen electrical engineers from five organizations distributed over eight sites. The team was formed, presumably, to catalyze the industry-wide acceptance of a new voltage standard for the "next generation," automotive electrical system (AES). Spanning two countries, five native languages, and eight time zones, pre-existing relationships among the participating organizations included competitors, customer-supplier pairs, and academia-industry collaborations. The charter organizations included SuperU[1], an American technical university; AmeriCar and DeutschCar, automakers from the U.S. and Germany, respectively; and AmeriChip and EuroChip, semiconductor ("chip") manufacturers based in the U.S. and Europe. Participants from three of the five charter organizations—DeutschCar, AmeriChip, and EuroChip—were themselves geographically-distributed bringing the number of original sites to eight (See Figure 3). Over the course of the study, the number of participating organizations expanded to ten distributed over seventeen sites in three countries, and average meeting attendance grew from 13 to 19 with a range of 10-26 engineers participating in any particular meeting.

Communicative technologies available to the team throughout the study included a Web site with capability for document archiving and threaded discussion, an email distribution list, and audio and video-conferencing capability. During the second year, the team also implemented NetMeeting, a free Microsoft computer-conferencing application that supported synchronous application sharing among online meeting participants so team members could collaboratively modify technical drawings and other documents in real-time. The team met face-to-face three times a year for an all-day meeting in relatively plush hotel settings in conjunction with the multi-day meetings of the industry Consortium to which they all belonged. They also met via video conference twice during the first year, then every two-to-six weeks using a combination of NetMeeting and audioconference during the second year.

[1] All organization and individual names are pseudonyms.

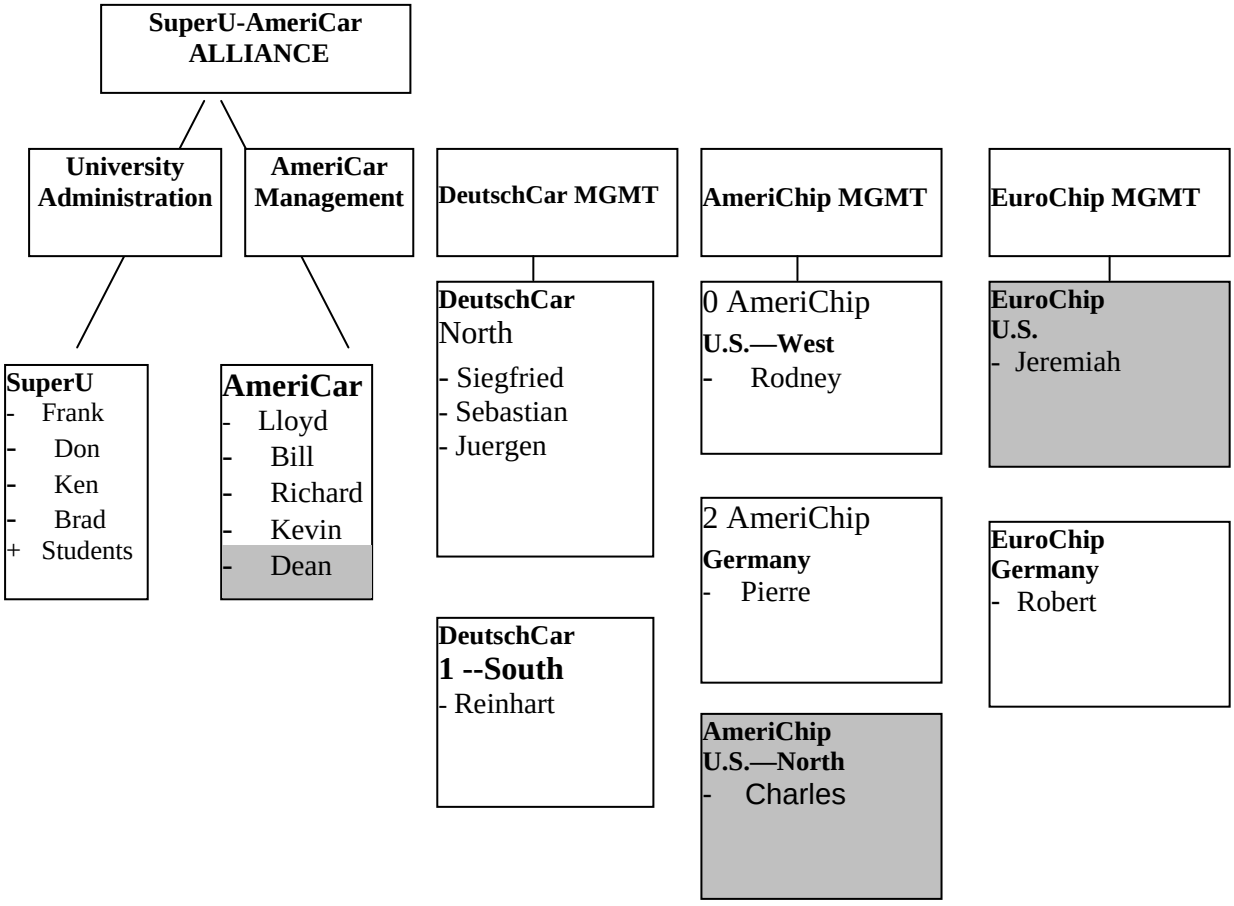

Figure 3. Organizational structure of AES Team membership during first year[2]

Though newly formed at the beginning of my study, the team represented a subset of a relatively small occupational community, automotive power electronics engineering, that transcended organizational boundaries. Many of the members knew or knew of one another prior to this project through membership in professional organizations, participation in the industry consortium for advanced electrical systems ("the Consortium") that had formed about a year prior to this team's kick-off, or previous cross-organizational projects. So while this particular configuration of individuals was new, the members brought with them a shared history and professional orientation.

Unlike the typical standardization task team (Browning & Beyer, 1998; Shapiro & Varian, 1999) the AES Team had already done the political and analytic work to arrive at a mutually agreeable value for the new standard through participation in an industry consortium on the same topic. So the members were now cooperating to generate cooperation, enthusiasm, and action from others in the industry to bring about the new direction sooner rather than later.

I selected the AES Team for its rich composition. The multi-organizational membership promised variation in the members' local work contexts while the quasi-matched pairing of semiconductor suppliers and of automotive manufacturing companies made it possible to make cross-organizational and cross-industry comparisons within a single case.

[2] Note: Shaded areas indicate sites and individuals that joined the team during the first year but were not charter members.

In addition, the multi-organizational and university-industry alliance model represented the types of collaborative initiatives enabled by information and communication technologies projected to be increasingly routine (Davidow & Malone, 1992; Fuehrer & Ashkanasy, 1999; Lucas, 1996; Majchrzak et al., 2000).

The team also proved to be a rich example of members being obligated simultaneously to multiple competing objectives. All members remained full-time employees of their respective organizations, reporting to supervisors who varied in their own valuing of AES technology standardization. The number of concurrent projects per member ranged from two-to-seven with an average of two-to-three that members described as "primary responsibilities," which they expected to be held accountable for in their performance review, and an average of three that they considered to be secondary but non-negligible.

Data Collection

The study was originally designed as an exploratory investigation of the interplay between virtual team members' situation in their respective local work contexts and their participation in the virtual team. The study design and methods employed reflect the early state of knowledge (Bailyn, 1977; Jordan, 1996) about this aspect of virtual teamwork. Guided by a personal preference for first-order data and later reinforced by Cramton's (2001) conceptualization of virtual team members' local work contexts as "hidden profiles," I studied the AES Team as a participant-observer for 23 months. I spent thirteen months in the field full-time as an overt participant-observer (Wolcott, 1982), four to six days per week, serially visiting seven of the eight charter sites twice each for several weeks at a time. During these visits, I shadowed individual team members multiple times, typically for full days, and attended any local or AES Team meetings that occurred during my visit. I continued the study for an additional ten months as a participant-observer in both technology-mediated and face-to-face team meetings held every two-to-four weeks. All full team meetings (19) were audiotaped and transcribed except two, the kick-off and one other meeting when the recording equipment malfunctioned. Between meetings, I maintained personal contact with key informants via email and telephone conversations, much as they communicated with one another.

I supplemented the observation data with semi-structured interviews of each team member and a theoretical sampling of his coworkers, typically at least one peer, subordinate, and superior, to provide a within-organization comparison for each subgroup I observed. I audiotaped the first several interviews, but security policies prevented recording at several sites visited in the latter half of the first year. By that time, familiarity with the technical aspects of the team's task made it possible to take near-verbatim handwritten notes. In all, I conducted 80 interviews, 27 of them audiotaped. Finally, email correspondence with team members and access to their Web site postings and many of the email exchanges between members kept me at least partially informed of team activities I could not observe.

My participant roles, decided more by the study participants than myself, varied significantly across sites and included drafting the team meeting minutes, writing and presenting a literature review of the risks of human exposure to AES technology, doing impromptu clerical tasks, providing English translation support for the international members, and generally being an "extra set of hands" as the occasion warranted. In both supplier organizations, my role was purely that of researcher-observer (Wolcott, 1982). My visits to these sites were brief, limiting the activities I could perform independently, because only one or two team members worked at each location.

Data Analysis

My methods for analyzing the data draw upon the principles and spirit of grounded theory (Strauss & Corbin, 1990) but did not employ all the techniques associated with that method. While collecting data, the team members' local orientation to team tasks and objectives emerged as a recurring theme in my on-site field notes and interview transcripts, though acknowledgments of local circumstances were nearly absent from team meetings. Following the principles of grounded theory (Strauss et al., 1990), "team members' relative local and team orientation" became a focus for subsequent data collection and theory development.

Each instance of team-related activity and conversation was initially coded for the members' respective "orientation," reflecting who the team member(s) referenced in making decisions regarding the performance of that task. The codes that emerged included "local," "team," "occupational community," and "undertermined." For example, this comment by a member blocking a component selection decision was coded as "local": "I'm not willing to go to the VCs [local constituent] with something I cannot say for sure will be developed by 2005." In contrast, a subgroup conversation about work organization was coded as "team" because it focused on the question, "What is the team expecting us to have done by the next meeting?" The "occupational/professional" orientation category indicated team members' expressing and exhibiting concern with meeting the expectations of their industry peers, i.e., automotive electrical engineers, or complying with professional standards. The "undetermined" category included observations of engineers working independently on tasks relevant to the AES Team, the members' respective organizations, *and* the Consortium without any indication of a predominantly salient reference group. In these instances, even when asked, the engineers typically shrugged or said that the task was a "technical problem" that had to be solved before any other progress could be made on AES technology generally and did not seem to associate the work with any particular group. Data entries in each category were then further subcategorized by theme.

I substantiated my impressions as they developed in two ways. First, while both collecting and reviewing data, I articulated my impressions in informal analytic notes including descriptions of the patterns I would see in future data if my impressions were correct and patterns that would indicate that my impression was incorrect or insufficient in some way (Agar, 1996). In addition, I checked my impressions and interpretations regarding industry-level patterns with industry informants who were not team members during informal conversations at Consortium meetings and professional workshops. After the data collection was complete, I circulated draft dissertation chapters to five team members who had played key informant roles. They made requests that I remove certain examples that revealed backstage dynamics they did not want exposed to the other team members but agreed with the accuracy of my interpretation. I describe my findings in the next section.

Findings

My analysis indicated that despite the AES Team members' acknowledgment of the "importance" of the team goal, they unequivocally and unhesitatingly privileged the expectations, requirements, and priorities of their respective local constituents over the goal of the virtual team. In fact, the observed participation patterns in the team represented, for the most part, an artifact of the members' locally-oriented and locally-advantageous actions. This finding does not imply, however, that the team goal was irrelevant to the team's work, only that it did not motivate the members' team participation as suggested by the normative

model. Nonetheless, the AES Team members did draw upon the team goal as a structuring device that provided a framework for action.

The team members' actions and reasoning also occasionally reflected an occupational orientation. For instance, members sometimes referred to professional standards of practice in determining the proper way to approach a task. More often, however, the entries in this category represented variants of a "local" orientation. Specifically members were concerned with managing their own and their organization's face in the larger arena of the industry. Because the number of examples in this category was small and mirrored the "local" orientation themes, the remainder of the paper focuses on the more theory-relevant "local" and "team" orientations.

Local Considerations

Three motivational themes emerged in the subcategorization of the "local orientation"data entries: *impression management for local constituents, concern for job security*, and *"leveraging" team participation as a means to local ends*. In contrast to the normative notion that extra-team "agendas" detract from team performance, however, I found that the members concern for and privileging of local circumstances both motivated and inhibited their participation in and contribution to the virtual team. Here I elaborate on each of these motivations and their influence on AES Team member behavior with illustrations from the data.[3]

Impression Management for Local Constituents. The team members' team-related actions, both taken and deferred, most often reflected their perceptions of local constituents' preferences rather than enthusiasm for the team goal or a rational evaluation of the most efficient and effective path to achieving the team's objectives. Though engaged in work and meetings to accomplish team-related assignments, the members' primary concern in completing these tasks was satisfying their bosses and internal and external customers in order to build or maintain relationships, credibility, and image. Examples of team-related activities informed by local impression management concerns included joining the team, choosing an approach to a team assignment contrary to a team agreement, and posting documents on the web site. While motivated by local impression management concerns, many of the members' actions, nonetheless, also benefited the team.

The members at each participating site joined the team for different reasons. The members at three sites—SuperU, AmeriChip, and EuroChip—were particularly influenced by local impression management considerations. At SuperU, the invitees found themselves in an impression management dilemma: Joining the team threatened their image of neutrality and impartiality in the industry Consortium they hosted and had invested in heavily for over a year. At the same time, *not* participating threatened the University's face as a worthy partner in a strategic alliance with AmeriCar and their own relationship with the University administration. One faculty member's comment captures their perceived predicament:

> "Well, this whole initiative was coming down from the very highest levels of SuperU and AmeriCar. SuperU had been courting the AmeriCar management, people in pretty high places …We were aware of the overarching significance for SuperU and knew that we couldn't be too cavalier…At the same time, Frank was concerned…we might be getting dragged into something with no redeeming social value from the perspective of the Consortium and that the members of the Consortium *not* involved in the team would think we were playing favorites…"

[3] Unless noted differently, the findings and data examples come from my fieldnotes of both observations and informal, *in situ* interviews. Data from other sources are noted in the text.

Don went on to explain how he and the other Consortium co-director eventually convinced themselves that participating in the AES Team could be a "win-win" situation—they could project a "results-focused" image with the Consortium members and simultaneously maintain face within the university community as a "team player" who had helped to secure an important industry partnership. The nature of the team goal was only important for how it would impact the perception of the Consortium members and was not the motivating consideration in choosing to join the team.

Though the supplier organizations, in general, stood to benefit the most from industry-wide acceptance of the new standard, the suppliers' interest in participating stemmed from a desire to establish themselves with their customers, the automakers, as the "go to" choice when automakers were ready to sign contracts to design and build new components. This comment from an AmeriChip engineer is typical:

> "If we work with them on this now, when it comes time to name a supplier or they need prototypes built, we're going to be the ones they come to…They'll think of us as being on the cutting edge, that our technology is keeping pace with their ideas."

Again, these members' decision to join the team reflected their assessment of the impact of participating on the image projected to key customers, rather than commitment to achieving the team goal, despite their own acknowledgement of the local and industry benefits of achieving consensus on the standard.

From a normative perspective, this absence of consensus around and commitment to a shared goal could be viewed as a recipe for team disaster. From an industry perspective, however, the formation of the team could be viewed as fortuitous regardless of the rationale. All the organizations in the industry would benefit from an *a priori* agreement on an international industry standard for AES technology, but doing the work to establish a standard had not previously been on any of the individual organizations' priority lists. So while the members' joining the team primarily reflected their pragmatic responses to local circumstances, their local orientation also resulted in the formation of a team performing work useful to all the organizations which may not have otherwise occurred.

It is not necessarily surprising that in a multi-organizational collaboration the participating organizations would consider the impact of participating on their image and reputation with current stakeholders, choosing to enter into only those alliances they perceived to be beneficial. Having agreed to join, however, the normative assumption is that voluntary membership implies investment in the goal. Instead, in the AES Team, I observed that members' task actions continued to reflect concern for impression management with local constituents throughout the project. The following, somewhat extreme, example shows the lengths to which the members would go to insure local legitimacy.

At the conclusion of the kick-off meeting, the team had discussed the possibility of doing physical experiments. The meeting facilitator had closed that discussion by saying that doing comparative physical experiments would be "ideal" but that the group did not have time and so would need to rely instead on a "paper study," a theoretical analysis of the new electrical system using calculations to predict system performance. None of the members openly objected to this conclusion in the meeting, but two weeks later when I arrived at AmeriCar, I discovered the entire AmeriCar subgroup to be engaged in the process of building a "breadboard,"[4] a physical mock up of an automotive electrical system used to conduct experiments. Prior to my arrival, the team had had to arrange for a crane to be assembled on a second-floor roof to lift the breadboard base into the lab through a third-floor

[4] When completed, a breadboard looks like the electrical skeleton of a car—everything that requires electrical power assembled in its proper location without the covering of the car body and upholstery.

window because it would not fit into any of the research building's elevators. In addition, electricians had installed a new industrial electrical source in the lab to handle the experimental voltages, and the engineers were too busy ordering components for the experiments to work on the "paper study."

From a "team" point of view, this was an expensive, illogical choice that consumed an inordinate amount of available personnel time on a project already challenged by too few engineers and a tight timetable. The AmeriCar members believed, however, that to be taken seriously by their internal customers, the "program managers," they had to demonstrate their ideas experimentally, not just theoretically. They told me that the program managers, the people who decide what does and does not go into a particular automobile, "don't believe in paper studies" but required that new concepts be "proven out in hardware." So they intentionally disregarded the team's agreement about the "best" approach for achieving the team's goal in order to satisfy the perceived requirements of their internal customers.

This example illustrates how locally-oriented action can hinder team effectiveness, as predicted by normative theory. Though the team eventually gained some secondary benefits from having built the breadboard, the time and money invested in building it at the beginning of the project significantly impeded the team's work on the "paper study" and later required intensive work by members at other sites to meet the team's first deadline.

Concern for impression management also catalyzed the team's increased use of collaborative technologies during their second year of work. Toward the close of the team's first year, the SuperU subgroup received notice that future funding for their participation in the AES Team would be terminated because the funding administrators believed the team had not satisfied the criteria of a "virtual team," the research umbrella in the AmeriCar-SuperU strategic partnership under which the AES Team had been chartered. The SuperU members learned through a series of queries that the administrators perceived the team to be too reliant on face-to-face and "low-tech" communication technologies, such as email and audioconferencing, to be considered "virtual." In response, the SuperU members endeavored to increase the team's use of collaborative technologies. At the next team meeting, they persuaded the team to make "use of virtual engineering techniques" one of the team goals and became patient but persistent advocates within the team for computer-conferencing and use of the web-based document repository. For instance, in each team meeting, one of the SuperU members who managed meeting logistics would inquire about the status of each site's computer-conferencing technology implementation. If a site lagged behind, SuperU offered a student assistant to fly to their site and stay until the system functioned. If documents used in a meeting were not posted to the web site, the same SuperU member requested an electronic version of the documents and posted them himself. A comparison of the document postings in the web repository for the first and second years reflects the results of their efforts (see Figure 4).

This pattern of document posting could be interpreted as a consequence of the new team goal to make greater use of the technology, but the team members did not refer to the team goal except in making formal presentations to the funders. In addition, only the SuperU and AmeriCar members, both accountable to the funding administrators, actively promoted the use of the technology in the team. Other members dragged their feet installing the computer-conferencing software then scoffed at the technical difficulties experienced during the first uses of the technology, saying it seemed to be "more trouble than it was worth."

Despite the unilateral nature of the AmeriCar and SuperU members' promotional activities and the other members' resistance, the team eventually benefited from the members' increased use of the web site and computer-conferencing application. The technologies enabled them to more easily share documents, bring new members up to speed

by referring them to the document archive, and revise technical drawings collaboratively online during meetings rather than offline in separate sites requiring post-meeting follow-up.

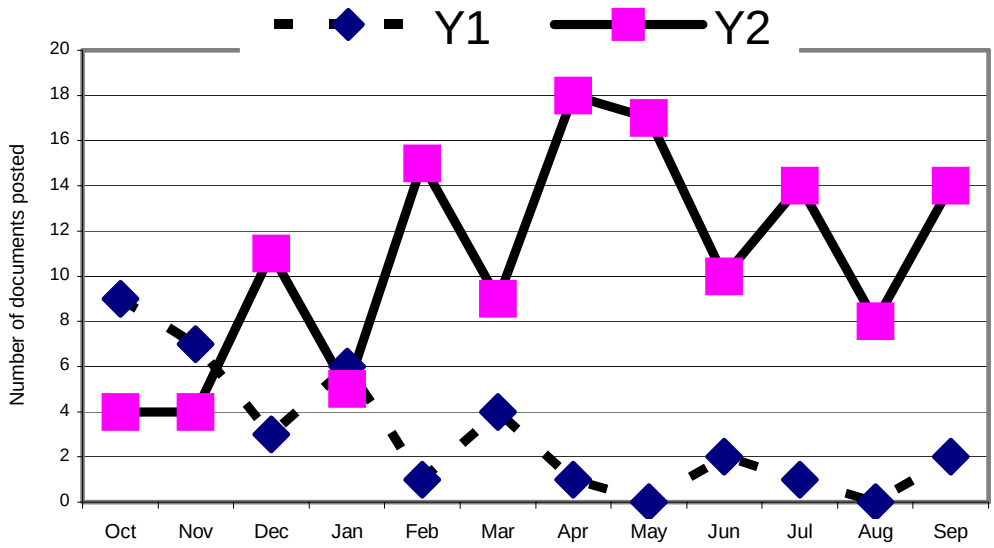

Figure 4. Web document postings by month—Year 1 and Year 2

These three examples show how concern for impression management with local constituents motivated virtual team members to act in locally-advantageous ways with both positive and negative consequences for virtual team performance, challenging the simplicity of normative models.

Job Security. Another aspect of the members' local contexts shaping their team participation concerned the job security implications of being associated with the AES Team. In contrast to the ideal model of a virtual team as a collection of autonomous agents contributing unique expertise to a portfolio of virtual projects (Davidow et al., 1992), the AES Team members remained full-time employees of their respective organizations and subordinate to their respective managerial directives. Though many people in the industry had moved between companies, lifetime employment continued to be upheld as the ideal and people typically moved between firms with the intention of obtaining employment that would continue through to retirement. A common topic of conversation among organizational members was the number of years each of them had been employed there and the number of years until retirement. Members even knew the tenure and "anniversary dates" (the date of hire) for many people with whom they did not work closely. Though this study took place during a boom in the American economy when employers were paying top dollar to recruit from an insufficient supply of technical talent, the AES Team members guarded their respective positions jealously. In the case of AmeriChip, this orientation resulted in members joining the team who knew very little about AES technology, while at DeutschCar North, one of the most knowledgeable and enthusiastic AES Team members almost left the team to protect his job.

The study took place during a tumultuous time in the semiconductor industry. Both AmeriChip and EuroChip divested themselves of entire divisions and reorganized their

operations in response to challenging market conditions. In response, AmeriChip engineers maneuvered to associate themselves with projects they perceived to be favored by management and, therefore, less likely to be terminated. AmeriChip engineers referred to these positions as "perches," reflecting their intended temporary status. When talking to one another about the status of their own or coworkers' employment, the description of the current circumstances often concluded with the comment, "That job is just a perch until things perk up."

Around the end of the team's first year, several of the most-watched trade journals featured previews and reviews of the TechExpo event where the team presented their first paper, with favorable reviews of the AES technology session. According to all the AmeriChip team members and relevant others I spoke with at the AmeriChip site, the press coverage had boosted the perceived legitimacy of AES technology development within AmeriChip, making the AES Team an attractive option for engineers seeking shelter from the reorganization storm. When the primary AmeriChip team member lost his job in the divestiture, he introduced two engineers to the team in a virtual meeting that he said would be taking his place. Though Rodney, the original team member, told the team that the two new members had been playing backstage supporting roles during his participation in the team, in on-site conversations, he acknowledged that he was trying to help out a couple friends who had been in roles likely slated for termination:

> "I'll shift this thing [AES Team] to Mark and Luke. It will give them a focus for a job."

During onsite interviews the two new members, Mark and Luke, they told me that they had been at best peripherally aware of Rodney's participation in the AES Team and considered their own participation to be temporary, a "perch until the [reorganization] dust settles." Nonetheless, both men participated in the team through the conclusion of my study and made valuable contributions to the development of a prototype component during the team's second year of work.

In contrast, Reinhart, a research manager at DeutschCar North had been doing AES-related experiments for a year or more prior to the start of the AES Team. He was an active contributor to the team and told me he enjoyed the opportunity to interact with colleagues at SuperU and AmeriCar whom he had met previously through professional meetings. Unfortunately, his boss did not initially see any organizational benefit from his participation in the team and during his performance appraisal meeting, directed him to withdraw from the team at the next face-to-face meeting where Reinhart had already agreed to make a presentation. He told me he was disappointed, but that he would do what his boss asked and that the next meeting would be his last. As it happened, an executive several levels higher in the organization became enamored with the notion of "virtual laboratories" prior to the next team meeting. Reinhart's manager then came to look favorably on Reinhart's involvement in the AES Team, so in the end he did not have to withdraw. Nonetheless, his decision about whether or not to participate was determined by his concern for his job security, which rested in the hands of his manager, not the appeal or significance of the team goal.

In these two examples, concern for job security accounted both for two members joining the team and for one member intending to withdraw. Though motivated by concern for local job security, the AmeriChip members eventually made valuable contributions to the team. In contrast, the DeutschCar member, an enthusiastic and expert contributor, would have left the team if necessary to retain his job, subtracting his expertise in the process. Had the DeutschCar member left the team, one drawing inferences about individual commitment from the team roster or attendance record might have perceived the AmeriChip members as "committed" and the DeutschCar manager as "not committed" when, in fact, the reverse

more accurately described the members' respective passion for the work and the AES Team. These examples illustrate that member contribution to a virtual team endeavor represents the consequence of potentially complex social, rather than an individual, phenomena that extend beyond the team boundary and in which the member simply plays a role.

"Leveraging" for Local Benefit. Another local consideration reflected in the AES Team members' level of engagement concerned whether and how the team-related activities and related information could be "leveraged" to "boot strap" local projects or to otherwise favorably position a work group for future opportunities. For almost all AES Team members, participation in the team represented a means to beneficial local ends unrelated to, or at least uncoupled with, the achievement of the team goal. They did not disagree with the team goal, nor did they intend to undermine it in any way, but they engaged in the team project primarily for the anticipated secondary local benefits expected to be achieved regardless of whether or not the team achieved its goal.

The team's formation is particularly illustrative. Had it not been for Bob Krannert, AmeriCar's Vice President of Research, experiencing a convergence of unexpected demands, the AES Team might not have even convened. Within a two week period, Bob unexpectedly found himself responsible both for filling the conference program for TechExpo, a biannual automotive technology exposition where the AES Team presented their first paper, and for operationalizing a strategic alliance ("the Alliance") between AmeriCar and SuperU. In the AES Team, Bob saw an opportunity to complete two unexpected assignments simultaneously. The two SuperU faculty members in separate conversations both corroborated Bob's explanation of how he came to initiate the AES Team (excerpted below):

> "I was talking with Frank [SuperU] about what he was up to and thought, "Gee, there's already a lot of collaboration and trust between AmeriCar and SuperU on AES Technology…We were looking for a charter project for the [strategic] alliance [with SuperU]… and I knew I was going to be chairman of TechExpo, and we were thinking of standards as being an element of that conference—so I said, "hey, let's use the TechExpo date as an endpoint [for showing 'proof of concept' for AES]…"

Bob continued to talk about how the AES Team could satisfy the strategic partnership's request to get a charter project going quickly and how a team paper on AES could be the cornerstone of a session on standards that also showcased AmeriCar's technological advancement.

On the one hand, Bob's taking advantage of (and creating) complementary objectives and the opportunity to "kill two birds with one stone" represented "good engineering practice"—an efficient, expedient way to meet project requirements. On the other hand, however, and for the purposes of the argument presented here, it is worth noting that Bob's enthusiasm in forming the team and the designation of a conference paper as the team's first deliverable were motivated by a desire to satisfy local demands and simplify his own personal workload rather than by rationally designing the most efficient means for achieving an industry goal he perceived to be important. In fact, once the team had produced the paper that satisfied his conference needs, he stopped supporting their work and was among the administrators recommending termination of funds. At the same time, however, had it not been for Bob's local concerns, the team might not have formed at all or not for another several years. Instead, the team's work proved catalytic in generating industry involvement and consensus, resulting in widespread collaboration to develop important device prototypes essential for the technical realization of AES technology.

The AES Team also provided a forum and means for gaining advantage in the intergroup competition for resources within the participation organizations. Despite the

presentation in team meetings of a "united front" by members from the same organization, the livelihood of several members' work groups hinged on their success in competition with one another for both internal resources and customer contracts. Consequently, actions that appeared as "initiative" taken in the interest of the team project, in fact, often represented a jockeying for position among local competitors. In the cases of action motivated by local competition, the members' team participation and the team goal provided a legitimating explanation of the members' activities both to the other team members and to local managers responsible for resource allocation. The case of Reinhart, the DeutschCar North research manager, is particularly illustrative.

Two aspects of Reinhart's contribution to the AES Team represented tactics in a local competition unrelated to the AES Team rather than commitment to the team's goal(s): his enthusiasm for "virtual engineering," and the assignment of one of his subordinates to physically co-locate with an AmeriCar engineer on a part-time basis during the second year. Reinhart took an activist role in the establishment and use of computer conferencing and of the team web site for document posting. He was often the first to try out the technology's features and to suggest new uses of the technology in team meetings. For instance, at one face-to-face team meeting in a facility without a wireless network, he took notes on the team's discussion, converted the notes to PowerPoint slides, then used the hotel fax line to access the web and post the slides on the team web site for later use by another team member presenting the team's work at an AES conference later that week.

Reinhart told me that within his own organization he perceived his group to be at a constant disadvantage with respect to a DeutschCar South research group in the assignment of new projects due to the other group's proximity to the "Advanced Technology Development" (ATD) group. The ATD funded basic research to identify new technologies that could be refined for installation into a particular automotive line. Though he believed he and his team of PhD level researchers collectively possessed superior expertise in the area of electrical power generation and distribution, he said that new projects were often assigned informally to the DeutschCar South group before he even knew the project was under consideration. During the time of this study, however, DeutschCar merged with EuroCar, another European car manufacturer with offices scattered across Europe and the U.S. Reinhart saw the merger as an opportunity to expand his group's internal customer base, and he perceived competence in "virtual engineering" as a competitive advantage over the DeutschCar South group which would not have the advantage of proximity to the acquired company's development teams:

> "If we can show expertise in virtual engineering, then when they [EuroCar sites] need research done, they are more likely to choose us because it will be less expensive to work with us because we will be able to work with them remotely."

Reinhart saw the AES Team as an opportunity to develop a personal and group capability that would be advantageous in the new organizational configuration, regardless of the outcome of the AES Team.

Reinhart's second significant contribution to the team motivated by local competition concerned the physical co-location of a staff engineer, Michael, from his group with an AmeriCar engineer to collaborate in the development of a system simulation. When I remarked that Michael's presence at AmeriCar seemed to indicate a new level of engagement and cohesion among AES Team members, Reinhart looked a bit startled and corrected my interpretation:

> "It is okay that Michael goes to AmeriCar, but that is not so important. What matters to me is that he is making connections with our new partners [at a U.S. office of EuroCar that Michael

> used as a base while working at AmeriCar], and when they need research, they will call us [instead of other research groups in the company]…"

In addition to developing a new capability that he believed would give his group a competitive advantage in the internal market for project assignments and funding, Reinhart also took advantage of an AES Team task as an opportunity to build relationships with the internal customers he hoped to serve using virtual engineering. Similar to the story of the team's formation, the local motivation of inter-group competition within an organization provided the catalyst for action that also, ultimately, benefited the team.

The importance of local projects in understanding participation patterns in the AES Team was further underscored by the explanations offered by engineers who had declined the invitation to join the team. Two engineers working on AES-related technology development with Reinhart at the DeutschCar North research facility did not join the team despite Reinhart's encouragement. Both men had PhD degrees and several years experience developing applications that depended upon AES technology to be usable and, thus, could have made significant contributions to the AES Team. They explained to me, however, that they had chosen not to participate because they saw no immediate benefit for their current local projects:

> "We already know about that [AES technology]. They are just getting started, but we have been working on this for some years…That [AES Team project] cannot help us with what we are doing here…"

This example of non-joining further reinforces the importance of the engineers' local orientation for accurately interpreting observed participation patterns. Members who perceived local benefit, unrelated to the team's achievement of its goal, participated actively and took initiative, seemingly in the service of achieving the team goal. In contrast, potential members possessing needed expertise who perceived no local benefit, opted not to join the team despite acknowledging the appropriateness and necessity of the team goal. A few AES Team participants fell somewhere in between: They believed that not participating at all risked local disadvantage, but at the same time, they saw no immediate local benefit in actively contributing. As a consequence, they attended team meetings but rarely spoke and did no out-of-meeting "homework."

In the normative model of team performance, team members are motivated to contribute by a worthy, specific, achievable goal (Zander, 1971) but in the AES Team, this was consistently not the case. While the members agreed that the goal was significant to the industry and were willing, for the most part, to be engaged in an initiative that would promote its achievement, the goal itself did not motivate the members' activities. These examples also show that the local considerations—or "hidden agendas"—informing the AES team members' action choices both catalyzed and inhibited participation in and contribution to the AES team. Though the team did accomplish its goal, it may have exceeded the goal or accomplished it sooner if the members had not been inhibited by extra-team considerations. At the same time, however, in the absence of extra-team agendas, the team may never have convened, nor the members taken any action at all.

Team Goal as a Framework for Action

Though not the motivating role predicted by normative models, the team goal played several important structuring roles in the AES Team members' activities. By circumscribing *what* was to be done, the team goal specified the *boundary conditions* for the members' activities, and by specifying *when* the activities needed to be accomplished, the goal provided

both a *stimulus* and a *temporal framework* for action. In addition, the members also employed the team goal in their respective local contexts as a *legitimating explanation* for action that might have otherwise appeared self-serving or illogical given the organization's other priorities. The completion of the "load list" illustrates these three functions of the team goal.

Actually a multi-page, multi-column spreadsheet, the "load list" contained the names and power requirements of all the electrical components—lights, door locks, fan motors, horn, etc.—in a passenger vehicle and how these requirements varied under different types of driving conditions—daytime/dark, in-town/freeway, summer/winter. A SuperU graduate student had assembled approximate values and ranges for many components as part of his doctoral dissertation research, but a great deal of work remained to be done to specifiy the values for a particular vehicle model and to analyze their implications in dynamic driving situations. The team's goal of presenting a technical and financial feasibility study by the end of their first year of work provided the impetus for the SuperU and AmeriCar members to collaboratively and expeditiously complete the information gathering and analysis. This task, though critical to all subsequent development efforts both within the team and at the industry level, had not been on AmeriCar or SuperU's priority list so probably would not have been completed as quickly in the absence of the team goal as a stimulus.

At the local level, the development of the load list provided a legitimating cover story for a number of activities at AmeriCar with secondary benefits for the AmeriCar manager and work group. The load list was at least part of the explanation for acquiring the lab space for the "breadboard" assembly described earlier, because the breadboard experiments were expected to validate the values in the load list. In addition, the need to complete the load list to meet the team objective justified the AmeriCar group focusing their efforts on AES technology. The AmeriCar manager had long been interested in AES technology-development, but it had not yet become an organizational priority. In the absence of the team goal, focusing on AES technology would have been seen as forwarding a private agenda. With the team goal as justification, however, the manager was free to redirect the energies of his subordinates, to enlist peer assistance in acquiring lab space, which would then subsequently belong to his fiefdom, and to focus on what had heretofore been a "pet" project.

In the example of the load list, we see the interplay between the team and local contexts facilitated by the team goal. While the team goal provided a legitimating purpose, boundary conditions, and the temporal frame for local actions that proved beneficial at both the team and local levels, it was the local, and often tangential, benefits of action that provided the motivation for following through. Without the team goal, these actions either would not have taken place at this particular time or would not have been sufficiently coordinated to have had collective benefit. At the same time, however, without the anticipated local benefits, the actions may not have occurred at all.

One AmeriCar engineer, Kevin, did exhibit motivation by the team, rather than local goals, and saw his locally-based activities as contributing primarily to the AES Team. He was a Chinese born and educated staff engineer who rarely attended out-of-department meetings and was generally unaware of the political dynamics within the organization beyond occasional tensions between competitions among work groups for office or lab space. In addition, his primary reference group seemed to be a group of Asian engineers—Chinese, Korean, and Indian—with whom he ate lunch every day that spanned organizational groups. Though other members of this group did express concern regarding local constituents' responses to various project options posed along the way, Kevin accepted the team goal as his assignment and looked for the most efficient way to accomplish it. After a German team member purchased identifying t-shirts for the team to help a friend's budding business, Kevin expressed excitement at feeling "more like a team." He also expressed interest and concern

when doing his work that his efforts would satisfy the expectations of the participants from the other organizations.

Kevin represented an anomaly among the AES Team members. Despite his personal team orientation, however, his day-to-day activities were nonetheless circumscribed by the directives of his supervisor, another AES Team member, whose participation in and contribution to the team were informed almost exclusively by local considerations, with some deference exhibited to "professionalism."

Discussion

The normative conceptualization of the team goal-team performance relationship attributes team success to team member commitment to the goal that transcends local (or personal) interests (Barrett, 2000; Eby, 1997; Hoegl, 2003; Irmer, Chang, & Bordia, 2000; Klein, Wesson, Hollenbeck, & Alge, 1999; O'Leary-Kelly, 1994; Zander, 1971). Yet, in the case of the AES Team, it was the members' local and personal interests that accounted for their actions that, ultimately, accounted for the team's success. Figure 5 shows an alternative model of the relationship between virtual team goals, team performance, and local motives suggested by the findings of this study.

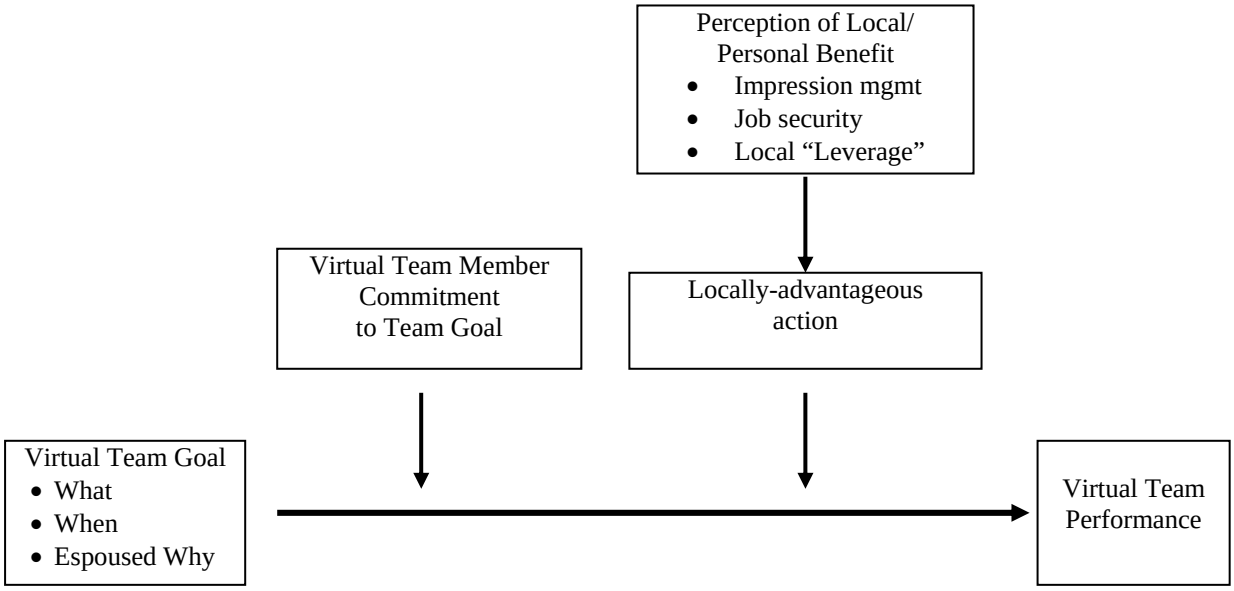

Figure 5. An alternative model of virtual team performance

In Figure 5, the relationship "Perception of Local/Personal Benefit" prompts "Locally-Advantageous Action" has been inserted into the normative model (Figure 1a) as an additional moderator of the team goal-team performance relationship for virtual teams. In contrast to Locke's (2000) model of team members being motivated simultaneously by the goal and "other motives," the model in Figure 5 indicates that the team goal provides a focus for what is to be done by when and provides a legitimate rationale for acting, but does not in and of itself motivate team member action. Instead, it is the combination of the team members' commitment to the team goal and their perception of local opportunity culminating in locally-advantageous action that moderates whether and to what degree the goal is achieved. Though explicit evidence of commitment to the team goal was not observed in this study, the presence of team goal commitment has been demonstrated to positively influence

team performance in other studies (Eby, 1997; Klein et al., 1999; O'Leary-Kelly, 1994; Zander, 1971) so has been retained in this model. It is not possible from this study to determine the nature of the relationship between team goal commitment and perception of local benefit—e.g., additive, multiplicative, etc.

The model does not preclude the possibility of virtual team performance being influenced by commitment to the team goal. Existing theory suggests, however, that the nature and structure of virtual project teams may simply make the achievement of team goal commitment difficult to achieve, calling for an alternative approach for motivating team member contribution, for troubleshooting team performance, and for explaining successful team performance in the absence of such commitment.

Finally, this study makes a methodological contribution to the virtual teams literature by showing, through descriptions of the behind-the-scenes experiences of the members at the affected organizations, that intra-team personnel and practice changes represented, for the most part, locally-advantageous tactical responses to the members' respective work worlds. These findings suggest the need for greater use of field methods that explore virtual teamwork both within and outside team meetings and public communication forums. While the geographical distribution of team members makes for challenging field studies (Robey & Jin, 2004), relying solely on electronically-accessible information risks significant misinterpretation and misattribution of team-level patterns as intra-team rather than extra-team phenomena.

Conclusion and Implications

In this participant-observation study of one multi-organizational virtual team, I found that while the team successfully achieved its goal of catalyzing industry consensus on a new standard, the members' participation in and contribution to the team were motivated primarily by local considerations, typically unrelated to the team goal: *impression management for local constituents*, *job security*, and "*leveraging" the team project for local benefit*. This finding challenges both the normative model of goal-motivated team performance, that asserts the necessity of team member "commitment" to the team goal for team success, and the accepted wisdom that "hidden," extra-team agendas negatively influence team goal achievement. In the case of the team studied here, the members' extra-team motives occasionally constrained their contribution to the team, as would be predicted by extant theory, but in the absence of anticipated local benefits, the team would not have been convened nor accomplished its goal, a contradiction of current theory.

The study does not suggest, however, that team goals are unnecessary or that they have a negligible influence on team member actions. Instead, I found that the team goal provided a *framework for action*, even if the actions were intended for local benefit. The dimensions of this "framework" included *boundary conditions* in the form of a task focus and specifications, a *temporal frame* that provided impetus for undertaking particular tasks at particular times and coordinating members' locally-inspired actions across sites, and a *legitimating explanation* for locally- and personally-beneficial actions.

Despite the consistency of the data supporting the proposed model, the study does have a number of limitations that warrant further research before drawing any conclusions about the generalizability of this model to other virtual teams. First, at the team level of analysis, this study represents the findings from a single case. This limitation is partially offset by the fact that the team was composed of members from five organizations from two different organizational types in the auto industry in addition to academia, and the findings were consistent across sites.

Similarly, all the members came from the same industry and occupational group, automotive electrical engineers, suggesting the possibility of a cultural skew. A team in another industry with a more occupationally diverse membership might have exhibited more diversity in their respective orientations toward the team goal. At the same time, the members from both the semiconductor firms and the academic research team had worked on projects in other industries, yet still exhibited the same local orientation.

This team's multi-organizational composition and the complicated pre-existing relationships among the participating organizations may have been conflating factors accounting for the members locally-oriented actions and attitudes. While this issue certainly begs for comparative empirical studies of single and multi-organizational teams, anecdotal evidence from members of several automotive supplier organizations who frequently work in intra-organizational virtual teams suggests that this same pattern would hold in that context.

Finally, prior studies have linked team task with team process and outcomes (Hackman, 1968, 1969; McGrath, 1990; Wageman, 1997) suggesting that the nature and structuring of the team's task, catalyzing standard acceptance, could have been sufficiently unique that this same pattern might not be replicated in other teams. In a typical standards development team, work on the new technology at each of the participating organizations goes on hold or continues tentatively along several parallel tracks pending the resolution of the standards question. Meanwhile, the members working on the standard do tend to behave politically, maneuvering to resolve the standard question to favor their own organization's sunk costs in development (Browning et al., 1998; Shapiro et al., 1999). In the AES Team, however, the standard had already been agreed upon by large organizations in both Europe and the U.S., so the maneuvering for a locally-advantageous solution to the standard question was already out of the way, and the team's members were busy doing development work in their own organizations. It's true that as this team's members cooperated to generate industry agreement and involvement, they were also competing with one another to develop new technologies to take advantage of the standard. The technical work completed in their own organizations, however, would be for naught if the entire industry did not move to the new standard. So while the team's task did contribute additional tension to the inherent individual-team, local-global tensions of teamwork, it did not necessarily predispose them to an exclusively local-orientation.

In many contemporary virtual teams, the team members continue to be full-time employees of institutionalized organizations. This study has illuminated the value of venturing beyond a virtual team's boundary to understand how the team members' situation in their respective local contexts shapes the within-team activities and interactions. I encourage and anticipate additional studies using this "external lens" (Ancona and Caldwell, 1992) in order to better understand the nature and importance of this aspect of virtual work.

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